

REMARKS

The Office Action dated July 11, 1005 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto. In accordance with the foregoing, claims 1, 12, 23, and 33 have been amended to improve clarity of the features recited therein and further define the scope of the present invention. Support for the amended recitations may be found, for instance, on page 24, paragraph [0079], and page 25, paragraph [0080] of the specification of the present application. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1, 2, 4-13, 15-24, and 26-33 are pending and under consideration.

CLAIM OBJECTIONS:

On page 2 of the Office Action, claim 33 was objected to. In response, claim 33 has been amended to resolve the objection. It is respectfully requested that the objection to the claim be withdrawn.

REJECTION UNDER 35 U.S.C. § 103(a):

In the Office Action, at page 3, the claims 1-2, 4-13, 15-24 and 26-33 were rejected as being unpatentable over Vanden Heuvel (USP 5751723) in view of Irvin (USP 6678854) (Irvin '854) and Irvin (USP 5862160) (Irvin '160) as extrinsic evidence of Irvin

'854, See col. 44-53. The Office Action took the position that Vanden Heuvel, Irvin '854, and Irvin '160 disclose all the aspects of independent claims 1, 12, and 23 and related dependent claims. It is respectfully asserted that Vanden Heuvel, Irvin '854, and Irvin '160, individually or combined do not teach all the recitations of the present claims. Reconsideration is requested.

Independent claim 1, upon which claims 2 and 6 are dependent, recites a method for encapsulating and decapsulating information into a data packet being transmitted through a plurality of switches. The method includes the steps of: receiving a data packet in a first switch for transmission to a second switch; encapsulating information into a field of said data packet so that said information, when encapsulated into said data packet, does not increase the size of said data packet; transmitting said data packet having said information encapsulated in said data packet to said second switch; receiving said data packet having said information encapsulated in said data packet in said second switch; and decapsulating said information encapsulated in said data packet using a table comprising all possible values from a Cyclic Redundancy Check calculation on said data packet, information transferred with said data packet, and a distance vector encapsulated in said data packet, wherein said step of encapsulating encapsulates said information by performing an XOR function where said data packet is XORed with said information.

Independent claim 12, upon which claims 13 and 17 are dependent, recites a system for encapsulating and decapsulating information into a data packet being transmitted through a plurality of switches. The system includes a first switch

comprising: a transmitter, and an encapsulating module that encapsulates information into a field of a data packet so that said information, when encapsulated into said data packet, does not increase the size of said data packet. The system also includes a second switch comprising: a receiver, wherein when said transmitter of said first switch transmits said data packet having said information encapsulated in said data packet to said receiver of said second switch, wherein said receiver of said second switch receives said data packet having said information encapsulated in said data packet; and a decapsulating module that decapsulates said information encapsulated in said data packet to determine said information encapsulated in said data packet, wherein said encapsulating module encapsulates said information by performing an XOR function where said data packet is XORed with said information and wherein said decapsulating module decapsulates said information using a table comprising a first column having all possible values from a Cyclic Redundancy Check calculation on said data packet, a second column having information transferred with said data packet, and a third column having a distance vector encapsulated in said data packet.

Independent claim 23, upon which claims 23 and 28 are dependent, recites a switch for encapsulating and decapsulating information into a data packet. The switch includes a transmitter that transmits data packets, an encapsulating module that encapsulates information into a data packet before said transmitter transmits said data packet, a receiver for receiving transmitted data packets, and a decapsulating module that decapsulates information from said transmitted data packets received by said receiver,

wherein said encapsulating module encapsulates said information by performing an XOR function where said data packet is XORed with said information and wherein said decapsulating module decapsulates said information using a table comprising a first column having all possible values from a Cyclic Redundancy Check calculation on said data packet, a second column having information transferred with said data packet, and a third column having a distance vector encapsulated in said data packet.

As will be discussed below, Vanden Heuvel, Irvin '854, and Irvin '160, individually or combined, fail to disclose or suggest the elements of any of the presently pending claims.

Vanden Heuvel generally describes a system and a method for conveying and recovering background data over a packet network, in which each message packet has a format denoted by a packet type identifier and a portion of the message packets denoted by the message packet identifiers have at least one unused or reserved bit. The system and method include monitoring each message packet to determine a packet type identifier, and interleaving a portion of background data (i.e., additional revenue generating data) into the unused or reserved bit locations to form an enriched message packet when a packet type identifier corresponds to a packet type having unused or reserved bits. Applicant respectfully submits that on page 3 of the Office Action, it is correctly recognized that Vanden Heuvel fails to teach or suggest, "said step of encapsulating encapsulates said information by performing an XOR function where said data packet is XORed with said information," as recited in independent claim 1. In

addition, in view of the description provided in Vanden Heuvel, Vanden Heuvel is silent as to teaching or suggesting, “decapsulating said information encapsulated in said data packet using a table comprising all possible values from a Cyclic Redundancy Check calculation on said data packet, information transferred with said data packet, and a distance vector encapsulated in said data packet,” as recited in independent claim 1.

To cure the deficiencies of Vanden Heuvel, the Office Action relies on Irvin ‘854 and Irvin ‘160. Irvin ‘854 generally describes a technique for encoding message types of a second data signal on a frame of bits is illustrated in FIG. 4A. See column 10, lines 33-50. In particular, a different mask is assigned to each message type where each mask defines a different combination of frame bit positions to be inverted, and the appropriate mask can be combined with the frame of bits including the first data signal using an exclusive-OR function 50 as shown in FIG. 4.

Irvin ‘160, in turn, generally describes a logic device 220 generating a mask pattern according to the state of the data received on line 224 and transmits a corresponding mask to exclusive OR circuit 228. See column 5, lines 35-50. According to Irvin ‘160, a mask represents a specified signal, event, or message which is to be conveyed at select times by a secondary channel. At the same time, a logic device 212 transmits primary data channel information with appended CRC bits to an exclusive OR circuit 228 over line 232. In FIG. 5, Irvin ‘160 provides a table including three columns. See column 10, lines 13-40. One column reflects a logic state of an input A, a second column represents the logic state of an input B, and a third column represents which

stored mask is to be used for the various combinations of the A and B inputs. For example, the input lines A and B may be used to select which mask is logically combined with an input signal.

However, Irvin '854 and Irvin '160 do not cure the deficiencies of Vanden Heuvel. A combination of Vanden Heuvel, Irvin '854, and Irvin '160 would provide a system and method for conveying and recovering background data over a packet network and interleaving a portion of the background data to form an enriched message packet and providing a first and second data signals if errors occur during transmission. The combination of Vanden Heuvel, Irvin '854, and Irvin '160 would also include a table including logic states of an input A and input B, respectively, and a mask (i.e., specified signal, event, or message) to be used for various combination of the A and B inputs. However, the combination of Vanden Heuvel, Irvin '854, and Irvin '160 fails to teach or suggest, "decapsulating said information encapsulated in said data packet using a table comprising all possible values from a Cyclic Redundancy Check calculation on said data packet, information transferred with said data packet, and a distance vector encapsulated in said data packet," as recited in independent claim 1.

Although the combination of Vanden Heuvel, Irvin '854, and Irvin '160 may generally provide a table, the combination of the cited references do not teach or suggest that such table is used for decapsulating information. Instead, as indicated in Irvin '160, the table is used to select the mask. Nothing describes that the table is used for decapsulating information.

Also, the table provided in the combination of Vanden Heuvel, Irvin '854, and Irvin '160 does not include all possible values from a Cyclic Redundancy Check calculation on a data packet, information transferred with the data packet, and a distance vector encapsulated in the data packet as in the present invention. Rather than the combination of Vanden Heuvel, Irvin '854, and Irvin '160 describing the recitations of the table recited in independent claim 1, the table provided in Vanden Heuvel, Irvin '854, and Irvin '160 would simply include the logic states of inputs A and B, respectively, and the mask to be used for various combination of the A and B inputs.

Independent claim 12 recites, "wherein said encapsulating module encapsulates said information by performing an XOR function where said data packet is XORed with said information and wherein said decapsulating module decapsulates said information using a table comprising a first column having all possible values from a Cyclic Redundancy Check calculation on said data packet, a second column having information transferred with said data packet, and a third column having a distance vector encapsulated in said data packet." Independent claim 23 recites, "wherein said encapsulating module encapsulates said information by executing an XOR function where said data packet is XORed with said information and wherein said decapsulating module decapsulates said information using a table comprising a first column having all possible values from a Cyclic Redundancy Check calculation on said data packet, a second column having information transferred with said data packet, and a third column having a distance vector encapsulated in said data packet." Because independent claims

12 and 23 include similar claim features as those recited in independent claim 1, although of different scope, and because the Office Action refers to similar portions of the cited references to reject independent claims 12 and 23, the arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claims 12 and 23.

CONCLUSION:

In view of the above, applicant respectfully submits that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicant further submits that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicant therefore respectfully requests that each of claims 1-2, 4-13, 15-24, and 26-33 be found allowable and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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